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ANNEX 3-03 COUNTERLAND OPERATIONS

NON-LINEAR COORDINATION MEASURES

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In conflicts characterized by nonlinear operations, ground forces occupy pockets that may have large distances of open terrain between them (often occupied by the enemy). Under such circumstances, the classic linear concepts may need adjustment. However, one classic linear concept, the common reference system, is very useful in both linear and non-linear conflicts. The following discussion centers on using a common reference system and kill boxes.

Area Reference System (ARS)

An ARS is primarily an operational-level administrative measure used to coordinate geographical areas rapidly for operational area deconfliction and synchronization. An ARS should simplify communications and procedures between the components. If not dictated by a higher command, commanders may use any ARS they deem appropriate. However, if an ARS is developed without a lead organization or unified effort, separate grid systems may be developed or used that are not only incompatible but may negatively impact counterland operations.

The Global Area Reference System (GARS) is the ARS developed and approved by the director of the National Geospatial-Intelligence Agency, military Services, Chairman of the Joint Chiefs of Staff, and the Secretary of Defense. It is now the standardized operational area reference system that impacts not only Service doctrine and joint doctrine, but also the entire spectrum of operational area deconfliction.

The GARS uses a grid system with a simple, universal identifier recognizable by each component and their associated command and control and attack assets. A graphical depiction of the proposed reference system is in the following figure, “GARS Layout and Naming Convention.” Latitude and longitude coordinate references easily define cells since they are common and exist on most military operational graphs and charts. They should also allow for easy interpretation using digital displays common in the tactical weapon systems of all components. GARS is highly useful in facilitating rapid attacks on time sensitive targets and for expediting deconfliction of friendly force locations although it is not designed to support precise targeting. Rather than transmitting a series of latitudes and longitudes, an area can be defined by a brief yet succinct number/letter character string.

GARS is also useful because it enables establishment of appropriate control and coordination measures that can be mutually coordinated, deconflicted, and synchronized via a simple, common, mutually understood, and agreed upon reference system. A detailed discussion of GARS is located in JP 2-03, *Geospatial Intelligence Support to Joint Operations*. Additional discussion of reference system attributes in general can be found in JP 3-60, *Joint Targeting*, Appendix D, "The Target Assessment Process."

Kill box. A kill box is a three-dimensional permissive fire support coordination measure (FSCM) with an associated airspace coordinating measure (ACM) used to facilitate the integration of joint fires and the coordination of the airspace within. Kill boxes are established to support air interdiction efforts as part of the joint force commander's (JFC's) joint targeting process. Kill boxes allow lethal attack against surface targets without further coordination with the establishing commander and without the requirement for terminal attack control. When used to integrate air-to-surface and subsurface/surface-to-surface indirect fires, the kill box will have appropriate restrictions. These restrictions provide a three-dimensional block of airspace in which friendly aircraft are reasonably safe from friendly surface fires and restrict non-participating aircraft and maneuver forces from entering the kill box. The goal is to reduce the coordination required to fulfill support requirements with maximum flexibility while preventing fratricide. For an in-depth discussion, see AFTTP 3-2.59, *Kill Box*.

A kill box is established and adjusted by supported component commanders in consultation with superior, subordinate, supporting, and affected commanders, and is an extension of an existing support relationship established by the JFC. Kill box boundaries are defined using an area reference system (e.g., GARS). Changes to a kill box require notification of all affected forces within the joint operations area (JOA) and must allow sufficient time for these forces and/or components to incorporate the kill box change.

Tactical fire support control procedures within a theater of operations may use colors and specific terminology to describe the status of kill boxes within a JOA.

- **Blue kill box.** A blue kill box permits air-to-surface fires effects in the kill box without further coordination with the establishing headquarters.

- **Purple kill box.** A purple kill box permits the integration of surface-to-surface fires with air-to-surface fires into the purple kill box without further coordination.

- **Established.** The kill box is planned, approved with an effective time, and disseminated via the airspace control order (ACO).

- **Hot.** Term used to describe a kill box or a portion of a kill box where fires or effects of fires are allowed without further coordination or deconfliction.

- ✪ **Cold.** Term used to describe a kill box or portion(s) of a kill box where fires or effects of fires are not allowed without further coordination. A cold kill box does not restrict the airspace associated with the kill box.

- ✪ **Open.** A kill box with aircraft cleared to enter or with aircraft operating inside the kill box (to include unmanned aircraft systems [UAS]).

- ✪ **Closed.** A kill box or portion of a kill box restricting manned aircraft from operating within the confines of the kill box.

- ✪ **Cancelled.** The kill box is no longer established.

Although use of kill boxes is not mandatory, the kill box system reduces the coordination required to fulfill support requirements with maximum flexibility. Kill boxes support the commander's objectives and concept of operations, including designated target priority, effects, and timing of fires. Command and control (C2) updates on kill boxes will be accomplished (e.g., altitude restrictions, frequency use, established control measures within the kill box) via appropriate C2 systems. With appropriate restrictions, surface-to-surface fires may occur simultaneously with air-to-surface strikes. Kill boxes can augment use of traditional FSCMs, such as fire support coordination line FSCL, coordinated fire lines (CFLs), and battlefield coordination line (BCL). They can help the commander focus the effort of air assets. When traditional FSCMs are not useful or are less applicable, the kill box can be the primary method for identifying areas to focus air assets. Planners should consider the following factors when creating kill box procedures within the JOA.

A kill box is an FSCM (with an associated ACM), and is not a reference system. Kill box boundaries are defined using an area reference system, which provides the construct (a two-dimensional system), and a kill box is the application. The addition of altitude restrictions makes a kill box a three-dimensional paradigm.

All aircrews executing missions within the confines of a kill box will execute their air tasking order (ATO) assigned mission in accordance with the law of armed conflict and applicable rules of engagement, collateral damage guidance and restrictions, positive identification (PID), and the special instructions (SPINS).

The decision to use a kill box requires careful consideration by the establishing authority. If used, its size, location, and timing is based on estimates of the situation and concept of operations. The commander must consider disposition of enemy forces, friendly forces, anticipated rates of movement, concept and tempo of the operation, surface-to-surface weapon capabilities, and other factors.

Integration of air-to-surface and surface-to-surface fires requires application of appropriate restrictions: altitude, time separation, or lateral separation. The supported commander will determine which of these is appropriate for the mission and ensure dissemination through the appropriate C2 nodes.

Kill Box C2. The air operations center (AOC) is the commander, Air Force force's (COMAFFOR's) primary element for planning, coordinating, and employing air component controlled kill boxes consistent with the JFC's intent. Other components must coordinate with the AOC prior to entering or engaging targets in a COMAFFOR kill box. This is normally done through the various liaison elements attached to the AOC, i.e., the BCD, the Naval Amphibious Liaison Element (NALE), the Marine Liaison Element (MARLE), and the SOLE. Through the ATO, the AOC tasks airpower to enter and engage targets in COMAFFOR kill boxes without further coordination with other components.

Command and control of airpower in these situations is conducted through the theatre air control system (TACS) as previously discussed. The air support operations center (ASOC) is responsible for all air operations short of the fire support coordination line (FSCL), including close air support (CAS) and air interdiction (AI). The AOC maintains responsibility for airpower operations beyond the FSCL.

Combined Kill Box and Traditional FSCM Operations. A combination of kill box and traditional FSCMs is possible, such as when a single large advance is made from a classic linear battlefield (such as operations during Operation IRAQI FREEDOM). Here the standard FSCL could be used for the slower moving ground forces, and ground component kill boxes could be created in front of, or behind, a rapid advance. This allows for more efficient air attack on non-engaged enemy land forces, the greatest freedom of land and aerial maneuver, and enhanced combat effectiveness—especially during non-linear operations.

A kill box is an FSCM that may contain other measures within its boundaries (e.g., no-fires areas [NFAs], restricted operating zones [ROZ], and airspace coordination areas [ACAs]). Restrictive coordinating measures will always have priority when established in a kill box.

The joint force special operations component commander (JFSOCC) may task special tactics teams to support the COMAFFOR in kill boxes. These taskings may include finding and fixing targets as well as providing laser designation support. Although these scenarios do not constitute CAS, they do require additional coordination. These situations require establishment of a restrictive FSCM in the kill box to protect the team, changing the affected quadrants/keypads to cold status, or canceling the kill box and execute CAS.